

## Fact Sheet Climate Change Impacts Worksheet

### Climate Change Background:

Human activities are a significant factor in the striking increase in atmospheric greenhouse gases over the last century. Increased greenhouse gas emissions have been linked to the adverse climate impacts commonly referred to as global warming. We must begin taking action to limit greenhouse gas emissions to avoid further undesirable consequences to the local and global environment, human health and economy. For more information, see: <http://www.kingcounty.gov/globalwarming> and the 2007 King County Climate Plan at <http://www.metrokc.gov/exec/news/2007/pdf/ClimatePlan.pdf>.

### Climate Change Impacts of Development Proposals:

Emissions of greenhouse gases associated with development comes from multiple sources:

- The mining, transport, and production of materials used in construction (“upstream”),
- The combustion of fuels used during construction (“on site”), and
- The transportation and energy demands created by the development after it is completed (“downstream”).

### SEPA and Climate Change Impacts

The Washington State Environmental Policy Act (SEPA) requires environmental review of development proposals that may have a significant adverse impact on the environment. If a proposed development is subject to SEPA, the project proponent is required to complete the SEPA Checklist. The Checklist includes questions relating to the development's air emissions. The emissions that have traditionally been considered are smoke, dust, industrial, and automobile. With our understanding of the climate change impacts of greenhouse gas emissions, King County will be asking proponents to also describe their greenhouse gas emissions.

### Climate Change Impacts Worksheet

King County has developed a Climate Change Impacts Worksheet that will assist project proponents in providing the information required by the SEPA checklist. The checklist helps estimate the quantity of GHG emissions created by a particular project.

The questions specifically address aspects of a development proposal that are often significant sources of GHG emissions. For example, the manufacture of concrete creates approximately ~2.4 % of global greenhouse gases<sup>1</sup> and transportation accounted for 52% of King County's Emissions<sup>2</sup> (2003).

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<sup>1</sup> 4-4 Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2005. Available: <http://www.epa.gov/climatechange/emissions/downloads06/07CR.pdf>

<sup>2</sup> Hammerschlag, R., and Howell, D. 2003 Inventory of King County Air Emissions. Available: <http://dnr.metrokc.gov/dnrp/air-quality/pdf/2003-inventory-report.pdf>

The questions also address areas with alternatives with much lower greenhouse gas emissions. For example, fly ash or slag can be used as a substitute for cement and biofuels may be used in place of regular diesel or gasoline during construction.

The questions also focus on post-construction transportation and energy choices. Particularly in the Puget Sound region, a majority of the emissions associated with many developments will occur after construction is completed. Facility design and location are the biggest influencing factors on a project's comparative greenhouse gas emissions profile.

Note on Greenhouse Gas Emissions Factors:

Estimating the quantity of greenhouse gases emitted from a particular development can be difficult. For all the estimates used in the SEPA Climate Change Impacts Worksheet, a life cycle assessment approach is used whenever scientific data is adequate to do so. This means that the emissions associated with all phases of a material's production are included in the analysis. For example, the greenhouse gas emissions estimate for a gallon of gasoline includes the greenhouse gas emissions that have been created through the extraction, transport, and refinement of petroleum as well as the emissions that have been created directly by its combustion.